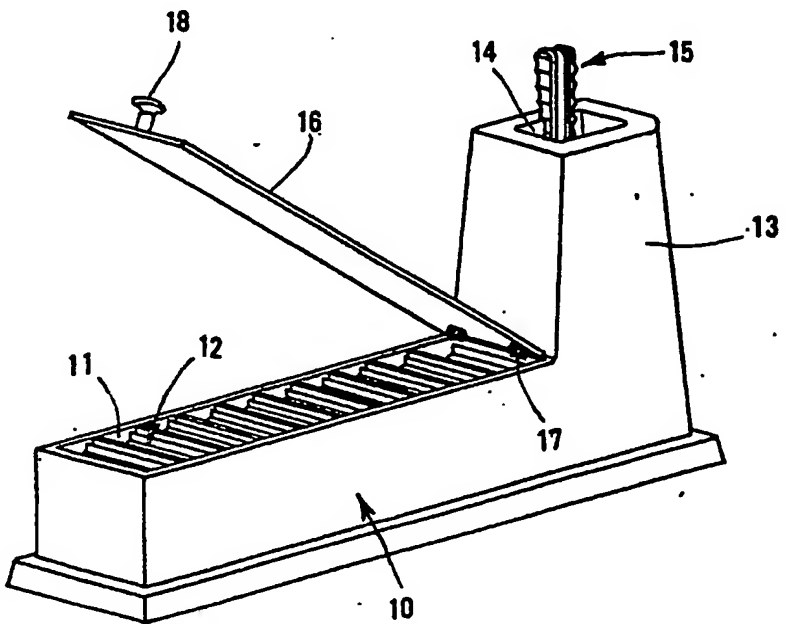




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification⁴ : A47L 13/46, A47K 11/10</p>	<p>A1</p>	<p>(11) International Publication Number: WO 87/00022 (43) International Publication Date: 15 January 1987 (15.01.87)</p>
<p>(21) International Application Number: PCT/IT85/00016 (22) International Filing Date: 6 July 1985 (06.07.85) (71)(72) Applicant and Inventor: VON KAENEL, Erika [IT/IT]; Via Parini, 50, I-Corbetta (IT). (74) Agent: DI GIOVANNI, Italo; Ufficio Brevetti Dott. Ing. Digiovanni Schmiedt, Via Aldrovandi, 5, I-20129 Milano (IT). (81) Designated States: AT (European patent), AU, BB, BE (European patent), BG, BR, CF (OAPI patent), CG (OAPI patent), CH (European patent), CM (OAPI patent), DE (European patent), DK, FI, FR (European patent), GA (OAPI patent), GB (European patent), HU, IT (European patent), JP, KP, KR, LK, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL (European patent), NO, RO, SD, SE (European patent), SN (OAPI patent), SU, TD (OAPI patent),</p>		<p>TG (OAPI patent), US. Published With international search report. With amended claims.</p>
<p>(54) Title: CLEANING DEVICE FOR SANITARY BOWLS WITH PADS THAT ARE THROWN AWAY AFTER USE</p>  <p>(57) Abstract</p> <p>Cleaning device for sanitary bowls comprising manual pincers (15) and pads (12) of paper or of other material that can be eliminated after use, water-soluble, so that by rubbing the pad held in the pincers (15) round the sides of the bowl, said bowl is easily and hygienically cleaned, the used pads being then allowed to drop into the water.</p>		

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DESCRIPTION

Title:

CLEANING DEVICE FOR SANITARY BOWLS WITH PADS THAT ARE THROWN
AWAY AFTER USE5 Previous technique

Sanitary bowls in lavatories are at present cleaned by use of a long-handled brush, kept in its own container.

Even if said container is provided with a cover and even if the brush is carefully washed after use, traces of dirt are
10 often left on it leading to bad smells.

This present invention avoids the above drawbacks offering other considerable advantages as will be explained below.

Description of the invention

Subject of the invention is a cleaning device for sanitary
15 bowls comprising a hand pincer and a container of absorbent material, tufts of cotton wool, pads generally made of paper, natural and synthetic fibres and other inexpensive materials so that when cleaning is completed, the pincers are opened and the pad allowed to fall into the bowl.

20 The pads are made of water-soluble material.

The pads may be flat or be otherwise shaped and will preferably have a thinner portion to make it easier for the compression pincer to pick them up and to allow cleaning to be done by moving the pad round and round. Other types of pads
25 are ring-shaped or at any rate have a central hole within which, to insert the jaws of an expansion pincer, namely one whose opening movement is from inside towards the outside, so that the pads can be rubbed over the sides of the bowl from all sides and also from the underside of the pad.

30 The pincers are preferably kept in a special container from which the handles emerge.

In one type of execution the container consists of two parts

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one for the pincers and the other for the pads.

The pad chamber may be horizontal so that they can be laid side by side, or vertical so that they will be in a pile.

The characteristics and purposes of the invention will be made even clearer by the examples of execution described below illustrated by diagrammatic drawings.

Examples of the preferred embodiments

Fig. 1 Cleaning device with horizontal compartment for flat pads, and pincers

10 Fig. 2 Compression pincers

Fig. 3 Flat pad

Fig. 4 Cleaning device with vertical compartment to hold ring-shaped pads, and pincers

Fig. 5 A pile of ring-shaped pads

15 Fig. 6 An expansion pincer

The cleaning device for sanitary bowls, subject of the invention, consists of a container 10 with horizontal compartment 11 for storing water-soluble wadding pads 12 (Fig. 1) and a body 13 with vertical compartment 14 for housing the pincers 15 worked by the two handles 25 and 26.

A lid 16, openable on the hinge 17 by the knob 18, protects the compartment 11.

The handgrip 25 is hinged into the pin 20 supported by the handgrip 26 and extends into an arm 21 with pin 22 that acts on the slot 23 of the arm 24 of the jaw 28 articulated in the pin 27 with the other jaw 29.

The spring 19 keeps the two jaws apart.

The flat pad 12 is protected by a covering of absorbent paper 30 closed at the end by the two edges being glued together 31.

Fig. 4 shows another version of the cleaning device.

The container 32 comprises the compartment 33 for ring-

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shaped pads 37, provided with a lid 34 and the compartment alongside 35 to hold the pincers 36.

The pile 38 is composed of ring-shaped pads 37 (Fig. 5) these too made of water-soluble wadding.

- 5 The pincers for picking up said pads are seen in Fig. 6. These pincers consist of the crossed jaws 39-40, articulated on the hinge 41 and fixed to the handgrips 42-43, kept apart by the compression spring 44.
- Small toothed blocks 45-46 for holding the pads from the
- 10 inside, are fitted onto the jaws.

Mode of operation

- The jaws 28-29 of the pincers 15 are inserted into the compartment 11 of the container 10, the handgrips 25-26 are pressed together in order to allow the jaws to pick
- 15 up a pad 12.

The handgrip 25, rotating round the pin 20, in relation to the handgrip 26, will cause rotation of the arm 21 and, overcoming the resistance of the spring 19, will also cause rotation outwards of the arm 24 fixed to the jaw 28 and so

20 said jaw 28 will approach jaw 29 and hold the pad 12 firmly.

The bowl can then be cleaned by rubbing the pad round its sides and simultaneously causing water to flow down.

- When cleaning is finished, by loosening the hold on hand-
- 25 grips 25 and 26, the spring 19 will cause the jaws to open and the pad will fall into the water and dissolve there.

Pincers 36 (Figs. 4 and 6) operate by expansion.

- By holding the handgrips 42, 43 tight and overcoming the resistance of the spring 44, the jaws 45 and 46 will come
- 30 close together enabling them to enter the pad 37.

On releasing the handgrips the jaws will open under thrust from the spring, fixing the pad to the pincers. Having

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completed cleaning the bowl, the handgrips are once more pressed together thus bringing the jaws into contact and the pad 37 will fall into the water and dissolve there.

Advantages

- 5 A great improvement in lavatory hygiene both because the sanitary bowl can be perfectly cleaned by means of the pads and also because no traces of dirt or unpleasant odours remain as the pads dissolve in the water after use.

As applications of the invention have been described as
10 examples only and not limited to these, it is understood that any equivalent application of the inventive concepts explained and any product executed and/or in operation in accordance with the characteristics of the invention will be covered by its field of protection.

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CLAIMS

1. Cleaning device for sanitary bowls characterized in that
it comprises manual pincers (15), (36) and absorbant pads,
tufts of cotton wool, pads generally (12), (37) of paper,
5 natural and synthetic fibres and other inexpensive material
easy to eliminate after use, so that by using the pincers
(15), (36) to rub said pads (12), (37) round the sides of
the bowl it can be perfectly and hygienically cleaned after
which, by allowing the pincers to open, the pads fall down
10 into the water.
2. Cleaning device for sanitary bowls as in claim 1, charac
terized in that the pads (12), (37) are made of water solu-
ble material.
3. Cleaning device for sanitary bowls as in claim 1 charac
15 terized in that the pincers (15) are compression operated
and their jaws (28), (29) close round the pads (12) by tight
ening the grip on the handles and open by releasing said
grip.
4. Cleaning device for sanitary bowls as in claim 1 charac
20 terized in that the pads (12) have a thinner part (31) on
one side to make it easier for the jaws (28), (29) of the
pincers (15) to pick up the pads (12) enabling a more or
less circular movement to be used for cleaning the bowl.
5. Cleaning device for sanitary bowls as in claim 1 charac
25 terized in that the pads (37) have a hole (47) in the middle and
in that the pincers (36) operate by expansion it being thus
possible to introduce the ends (45), (46) of its jaws (39),
(40) into the hole (47) in the pads (37) and therefore to
exert pressure on said pads from inside outwards keeping
30 them firmly held by the pincers (36).
6. Cleaning device for sanitary bowls as in claim 1 charac
terized in that a single container (10), (32) houses the

- 6 -

pincers (15), (36) in one compartment (14), (35) and the pads (12), (37) in the other compartment (11), (33).

7. Cleaning device for sanitary bowls as in claim 6 characterized in that the compartment (11) of container (10), for
5 flat pads (12) is horizontal with said pads (12) placed in said compartment side by side.

8. Cleaning device for sanitary bowls as in claim 6 characterized in that the compartment (33) of container (32), for
ring-shaped pads (37) is vertical with said pads (37) piled
10 up inside said compartment.

AMENDED CLAIMS

[received by the International Bureau on 16 May 1986 (16.05.86);
original claims 1,3 and 5 replaced by amended claim 1; claim 4 amended; claims
6-8 unchanged (1 page)]

1. Cleaning device for sanitary bowls comprising a manual pincer and absorbant pads, tufts of cotton wool, pads generally of paper, natural and synthetic fibres and other inexpensive material, suitable therefore for elimination after use so that by using the pincers to hold said pads and rub them round the sides of the bowl, said bowl can be perfectly and hygienically cleaned and the pads then allowed to drop down into the water, characterized in that the pads are either flat pads (12) and a pincer (15), operating by compression, picks them up by one end thus enabling both sides of the pads (12) to be used on the sides of the bowl, or else they are tubular pads (37) and the pincer (36), operating by expansion, exercises pressure inside them allowing the whole of the cylindrical outer surface of the pads (37) to be used on the sides of the bowl.
2. Cleaning device for sanitary bowls as in claim 1, characterized in that the pads (12), (37) are made of water soluble material.
4. Cleaning device for sanitary bowls as in claim 1, characterized in that the flat pads (12) have a thin end (31) which helps the jaws (28), (29) of the pincer (15) to hold said thin end firmly allowing the sides of the bowl to be cleaned by making the pads (12) describe a more or less circular movement.
6. Cleaning device for sanitary bowls as in claim 1, characterized in that a single container (10), (32) houses the

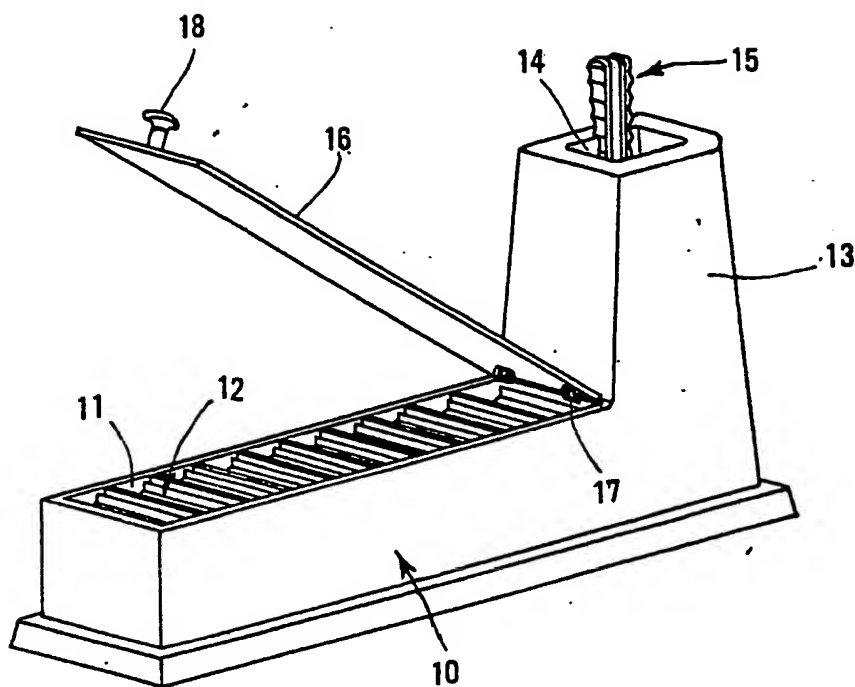


fig. 1

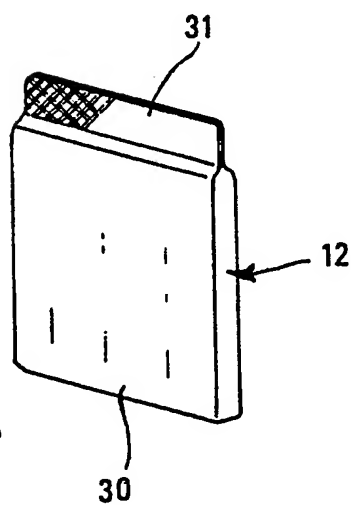


fig. 3

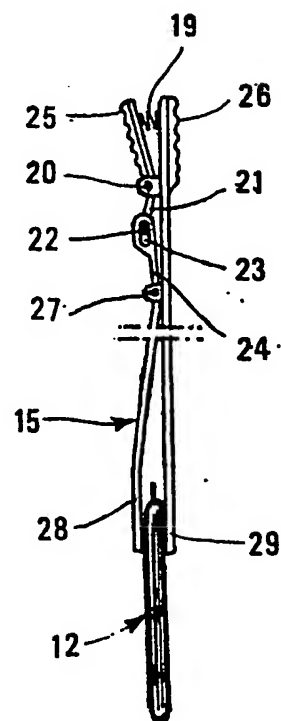


fig. 2

fig. 4

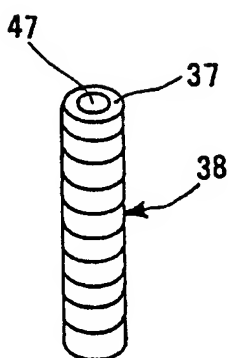
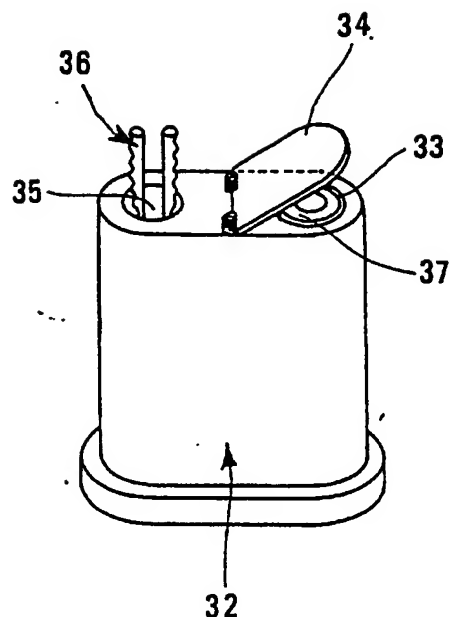
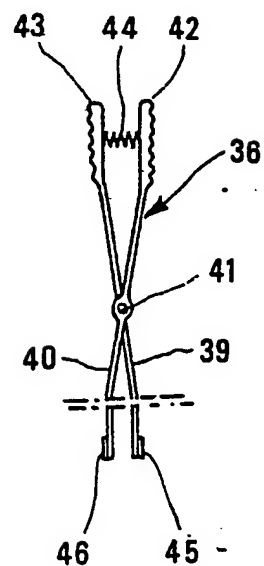


fig. 5

fig. 6



INTERNATIONAL SEARCH REPORT

International Application No PCT/IT 85/00016

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) * According to International Patent Classification (IPC) or to both National Classification and IPC IPC ⁴ : A 47 L 13/46; A 47 K 11/10																	
II. FIELDS SEARCHED <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black; margin: 5px 0;">Minimum Documentation Searched⁷</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%; border-bottom: 1px solid black;">Classification System</th> <th style="border-bottom: 1px solid black;">Classification Symbols</th> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">IPC⁴</td> <td style="padding: 5px;">A 47 L A 47 K</td> </tr> </table> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black; margin: 5px 0;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched⁸</div>			Classification System	Classification Symbols	IPC ⁴	A 47 L A 47 K											
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IPC ⁴	A 47 L A 47 K																
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; border-bottom: 1px solid black;">Category *</th> <th style="border-bottom: 1px solid black;">Citation of Document, ¹¹ with Indication, where appropriate, of the relevant passages ¹²</th> <th style="border-bottom: 1px solid black;">Relevant to Claim No. ¹³</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X A</td> <td style="padding: 5px;">EP, A, 0078123 (AGAPIOU, M.) 4 May 1983, see pages 6-9; figures 2,5,7,9,10,12 --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1,2,3,4 6,8</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X A</td> <td style="padding: 5px;">FR, A, 2153309 (METTKE, M.) 4 May 1973, see page 4, lines 18-38; page 5, lines 1-6; figures 1-4 --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1 3,4,8</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X A</td> <td style="padding: 5px;">US, A, 4031673 (HAGELBERG, A.T.S.) 28 June 1977, see front page --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1,2,3,4 8</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">A</td> <td style="padding: 5px;">US, A, 2560649 (HORNADAY, W.H.D.) 17 July 1951, see column 1, lines 1-5,43-49 -----</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1,3,4,6,8</td> </tr> </tbody> </table>			Category *	Citation of Document, ¹¹ with Indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	X A	EP, A, 0078123 (AGAPIOU, M.) 4 May 1983, see pages 6-9; figures 2,5,7,9,10,12 --	1,2,3,4 6,8	X A	FR, A, 2153309 (METTKE, M.) 4 May 1973, see page 4, lines 18-38; page 5, lines 1-6; figures 1-4 --	1 3,4,8	X A	US, A, 4031673 (HAGELBERG, A.T.S.) 28 June 1977, see front page --	1,2,3,4 8	A	US, A, 2560649 (HORNADAY, W.H.D.) 17 July 1951, see column 1, lines 1-5,43-49 -----	1,3,4,6,8
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"A" document member of the same patent family</p> </div> </div>																	
IV. CERTIFICATION <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;"> Date of the Actual Completion of the International Search 14th March 1986 </td> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;"> Date of Mailing of this International Search Report 02 AVR. 1986 </td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"> International Searching Authority EUROPEAN PATENT OFFICE </td> <td style="border-bottom: 1px solid black; padding: 5px;"> Signature of Authorized Official M. VAN MOL </td> </tr> </table>			Date of the Actual Completion of the International Search 14th March 1986	Date of Mailing of this International Search Report 02 AVR. 1986	International Searching Authority EUROPEAN PATENT OFFICE	Signature of Authorized Official M. VAN MOL											
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ANNEX TO THE INTERNATIONAL SEARCH REPORT ON

INTERNATIONAL APPLICATION NO. PCT/IT 85/00016 (SA 10114)

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A- 0078123	04/05/83	GB-A, B 2107973	11/05/83
		US-A- 4493124	15/01/85
		CA-A- 1193058	10/09/85
FR-A- 2153309	04/05/73	NL-A- 7212732	22/03/73
		BE-A- 788879	15/03/73
US-A- 4031673	28/06/77	None	
US-A- 2560649		None	

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